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PROSPECTUS  
OF  
GESNER'S  
PATENT KEROSENE GAS,  
OBTAINED FROM  
Bitumen, Asphaltum, or Mineral Pitch.

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PART I.

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- 1st. The advantages in connection with this gas are that the material yields more than double the quantity of gas obtained from common coal.
- 2nd. The illuminating power of Kerosene gas is also more than double that of ordinary coal gas. The light of Kerosene gas is very agreeable to the eye.
- 3rd. The gas is obtained in less time, and consequently with less fuel and labor than coal gas.
- 4th. Bitumen, or Asphaltum, is inexhaustible. It can be obtained in the United States, West Indies, and in the British Provinces, at a lower rate than the coal now used for making gas.
- 5th. The Kerosene gas does not corrode, or otherwise injure the pipes.
- 6th. The naphtha produced in its manufacture is much more valuable than coal tar, being employed for various purposes in the arts and manufactures.
- 7th. The coke remaining in the retorts affords fuel to heat them.
- 8th. The gas contains but little azote, carbonic acid, carbonic oxide, and other gasses, that require to be removed by purification, and in its manufacture the retorts do not become filled with carbon.

9th. The process of manufacture is cheap and simple.

10th. This gas may be safely and economically introduced into private houses.

11th. To make the Kerosene gas no alteration is required in the existing gas works, except the introduction of the patent retort case, which is not expensive, and may be placed within the retort now in use.

12th. The apparatus used for purifying coal gas is rendered almost unnecessary, and may be much reduced in the cost.

13th. The Kerosene gas is not injured by being retained in the gasometer several weeks.

14th. The Patent Kerosene gas affords the cheapest, safest, and most agreeable light ever used.

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As but a short time has elapsed since the foregoing discovery was made public, only a few buildings at New York and Halifax, Nova Scotia, have been lighted with the gas, and there, men of science have examined and approved of it as being cheap and safe. The following notices of the Kerosene gas have appeared in the public journals of those places:

From the New-York Courier & Inquirer, Feb. 1, 1850.

"Dr. GESNER has made an improvement in the construction of retorts for the production of gas, which he has patented, and which is very simple, effective, and economical. The substance used out of which he generates gas, is the bitumen found so abundantly in Trinidad, and other West India Islands. In the experiment witnessed by us, one pound of bitumen generated six entire feet of gas, which, without being purified, burnt with a more clear and brilliant light, and with a less offensive smell, than any gas yet furnished us by our Gas Companies. The Doctor states that he can make the gas on a large scale, at a cost of not more than fifty cents per thousand feet, which our readers will recollect, is the cost of making it at Southport and other English towns. If this be the case, and from what we saw we cannot doubt it, gas generated out of this substance, by his method, can be furnished to the consumers at not to exceed one dollar and a half per thousand cubic feet, and leave besides a large profit to the manufacturer. His apparatus is admirably adapted to the lighting of public houses, theatres, &c., and where the gas fixtures are owned by the occupant of the building, it can be substituted, as a generator, at very trifling expense. It requires no more science to operate it than to boil a tea kettle."

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*From the New York Journal of Commerce of Feb. 1st, 1850.*

"Dr. Gesner has discovered a new illuminating gas, which he exhibited last night at No. 98, Liberty Street, in the presence of a company of gentlemen somewhat distinguished for their scientific attainments. With the use of a retort recently invented by him, in which he placed a pound of bitumen, or mineral pitch, obtained from the Island of Trinidad, he succeeded in producing in about twenty minutes, near six cubic feet of gas that burned with unusual brilliancy—sufficient to supply one burner four hours. The Doctor states that gas can be furnished in this manner, possessing a much higher illuminating power than that now in use and at a much lower rate. By introducing his patent retort into common gas works, the expense of manufacture will be reduced two-thirds."

*Correspondence of the Journal of Commerce of Jan'y. 26th, 1850.*

The few gentlemen who saw Dr. Gesner's apparatus in operation at his residence in Liberty Street last evening, felt well convinced that the end of exorbitant charges for Gas was at hand. Dr. Gesner, a distinguished professor of Nova Scotia, being on board the Admiral's ship on the northerly coast of America, made the discovery of a bituminous substance free from Sulphur, or other noxious ingredients,—and containing treble the quantity of Gas to be found in any description of coal,—and much cheaper than the latter in actual price. To enable him to succeed, however, in producing Gas from this substance, some improvement in the mode of using the usual apparatus was necessary, and being invented by him, was, as well as the discovery, duly patented both in Europe and this country. As an opportunity will soon be afforded to editors and men of science to view the operation of the Professor's new apparatus, no details are necessary at present.

It may be said, however, briefly, that,

1st. The cost of the new material in New York, is but little over one half that of the best bituminous coal.

2d. That it is inexhaustible in quantity.

3d. That, against a charge of coal, that is eight hours in being converted into Gas, this material takes but two hours.

4th. In the experiments last evening, while one pound of Coal produced  $2\frac{1}{2}$  cubic feet of Gas, the same quantity of the material produced  $5\frac{1}{2}$  cubic feet, in one quarter of the time.

5thly. The residum, or coke, is sufficient for ample fuel.

6thly. No lime or other purifier seems necessary; none such was used in the experiments, nor was there any unpleasant smell whatever.

7th. It does not corrode iron pipes,—a most serious expense under the old system.

Consumers of Gas, think of these advantages, and be cheerful. Come forward and form a new company at once.

*From the New York Journal of Commerce, Feb'y. 4th, 1850.*

DR. GESNER'S PATENT KEROSENE GAS LIGHT.—During the past year the attention of the Earl of Dundonald was directed to the improvement of the sugar and coffee estates in the West Indies. Among other substances proposed to be converted into manure, for their renovation, was the asphaltum of the great Pitch Lake of Trinidad. To analyze and decompose the bitumen, or asphaltum, and to conduct a series of experiments upon the material in reference to agriculture, the

Earl employed Dr. Gesner, a Professor of Chemistry and Geology, whose name has become familiar to men of science in this country.

In conducting his experiments, the Professor, it appears, soon observed, that by dry-distillation, bitumen or asphaltum, like coal, or rosin, was capable of yielding large quantities of carburetted and bicarburetted hydrogen gases, now universally employed for the supply of light. But from its peculiar nature, there was a difficulty in applying this material to that purpose by any known process of manufacture. Dr. Gesner, however, has succeeded in the invention of a retort which overcomes every obstacle, and renders the mode of making illuminating gas from asphaltum, extremely easy and simple. The cheapness of this article, its abundance, and the great quantity of gas it affords, render it a rival to coal, rosin, and every other hydro-carbon heretofore employed to supply light.

From the New-York Evening Post, Feb. 1, 1850.

**GESNER'S ILLUMINATING GAS.**—A new illuminating gas, and a peculiar retort necessary to its production, have been discovered and patented by Dr. Gesner, a distinguished chemist, of Halifax, now in the employ of the British Government. The gas is made from bitumen, sometimes called asphaltum, or mineral pitch, which Dr. Gesner says exists in inexhaustible quantities in Trinidad and other West India islands, and probably in the southern states of the Union. This material, it is said, can be supplied at a much cheaper rate than coal, oil, or rosin, now used to produce gas light, and it affords more than double the quantity of illuminating gas than the coal employed for that purpose. The gas is also said to be more pure and dense than that obtained from coal, and the light superior. By the introduction of the discoverer's patent retort into common gas works, it is calculated that the cost of manufacture may be reduced two-thirds. The manner of burning is that practised universally. The simplicity of the apparatus and mode of manufacture, are such that this gas may be successfully made in public and private buildings. Every house may have its retort and gasometer, and the gas may be made by the fire of the kitchen range. Bitumen has not heretofore been applied to any useful purpose, to any extent.

We saw some experiments made with this gas last evening at the residence of Dr. Gesner, No. 93 Liberty street, where he has erected a temporary apparatus for the purpose of exhibiting his discovery to any body that may feel the least interest in the matter. About one pound of rude bitumen was enclosed in a retort in a common stove, from which a pipe led into a small tin reservoir where the gas was condensed, and afterwards passed into another tin vessel that served for a gasometer. In a few minutes the heat of the stove generated about six cubic feet of gas, which, without purification or cleansing in any manner, supplied two large burners with brilliant and unflickering light for two hours. The flame was perfectly clear and steady, and the whole apparatus and process of an extreme simplicity.

Dr. Gesner intimates that one hundred cubic feet of this gas will cost about five cents. Gas is now sold at the rate of forty cents per one hundred cubic feet.

From the New-York Express, Feb. 1, 1850

**A NEW ILLUMINATING GAS.**—We were last night witnesses of a very interesting experiment, in the manufacture of a new inflammable gas of

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remarkable brilliancy, by Dr. Gesner, of Halifax, Nova Scotia, a chemist of some reputation also in Europe. Dr. Gesner has discovered this new gas and has taken out letters patent for its application, and a proper apparatus for its manufacture. This gas is obtained from Bitumen, Asphaltum, or Mineral Pitch, very abundantly found in the West India Islands, Cuba, and the Southern territory of the United States. The material can be supplied at a much lower rate than coal or rosin, and it yields more than double the quantity of gas than the coal used in America for illuminating purposes. The Doctor informs us also, that by the use of his improved retort, the cost of manufacturing gas may be reduced two-thirds. As the material used contains no sulphur, the gas is remarkably pure, and as it is much more dense than that obtained from coal, it has higher illuminating powers. The light is white and very soft, not at all too powerful for the eye, while it has much higher illuminating qualities than the gas now generally in use. For its manufacture, the only alteration required in the common Gas Works, is the use of the inventor's retort, which contains the charge of the material, and is introduced into the retort now employed.

Dr. Gesner's experiments last evening, were made in his own apartments at his boarding house, No. 93 Liberty street. The apparatus used was a simple gasometer, like those now in use, and containing about five and a half cubic feet of gas. About a pound of Bitumen, obtained, so we are informed, from Trinidad, was placed in the Retort, and in fifteen minutes time the Gasometer was filled, and the article ready for use. The light, as we said above, was remarkably clear and white, and although it had not passed through any purifying process whatever, it was much more brilliant than the coal gas now used in New-York. The quantity contained in the Gasometer supplied two burners of the ordinary capacity for nearly an hour, being at the rate of two cubic feet an hour to each burner.

Dr. Gesner informs us that this gas can be furnished as low as five cents per hundred cubic feet, although he allows six cents, in order the better to cover the expenditures. The same fixtures, pipes, burners, &c., that are used now can answer for his gas, the only alteration in the works necessary being the use of his patent Retort. A reduction from 40 to 6 cents per hundred cubic feet, is a desideratum most earnestly to be hoped for, and we doubt not that our citizens in the present state of agitation upon this subject will give Dr. Gesner a call.

*From the Scientific American of Feb. 9th, 1850.*

**NEW KIND OF GAS.**—Prof. Gesner has discovered a new illuminating gas and exhibited last week at No. 93 Liberty street, in this city, in the presence of gentlemen, somewhat distinguished for their scientific attainments. With the use of a retort recently invented by him, in which he placed a pound of bitumen or mineral pitch, obtained from the Island of Trinidad, he succeeded in producing in about twenty minutes, nearly six cubic feet of gas that burned with unusual brilliancy—sufficient to supply one burner four hours. The Doctor says that gas can be furnished in this manner possessing a much higher illuminating power than that now in use, and at a much lower rate. By introducing his patent retort into common gas-works, the expense of manufacture he says, will be reduced two-thirds. Dr. Gesner has obtained a patent for his invention, as will be seen by reference to another column of this paper.



*From the Halifax Nova Scotian of March 20th, 1850.*

**DR. GESNER'S DISCOVERY.**—We are glad to learn that the new description of Gas, produced from *Asphaltum*, is winning its way into favour with our citizens. This material is to be found in abundance all over America, and it is said immense quantities can be procured in this Province. Dr. Gesner is kept busily employed explaining the nature of his discovery, and exhibiting the light to the curious in such matters. For a trifling sum, say twenty-five or thirty dollars, the whole apparatus, including retort, gasometer, &c., may be set up in a public building, and the cost of lighting the whole would not exceed a few pence per night. To use the Doctor's words—there is no science about it: the hall stove will manufacture the gas, and the girl that sweeps the house may keep it in order. The exhibitions, thus far, have been in the highest degree satisfactory; the light being remarkably brilliant, even without the usual purifying process of the Gas-house. The light of one burner, of the ordinary size, has been ascertained to be by actual experiment, equal to six tallow candles. There is also another striking peculiarity in the new gas, it being of a green color which is well known to be grateful to the eye. This property was not observed by Dr. Gesner until pointed out by the New York Professors. It is gratifying to learn that this gas is likely to get into extensive use at New York and other American cities. Dr. Gesner's son is now fitting up in the former city, to burn the article, and to use the *Asphaltum*. We also learn that it is in contemplation to light the Halifax Hotel by the same means. And if it be true that the article can be produced at the rate of *three shillings* per M. feet it cannot fail to benefit consumers of gas generally. It is even asserted by many that already has the city felt the influence of competition, in being supplied with gas of a better quality.

*From the Halifax British Colonist of Feb'y 26th, 1850.*

**GESNER'S PATENT KEROSENE GAS.**—Dr. Gesner has obtained a patent for his discovery in the United States, and as we understand, is now proceeding with the British Provinces and England. It is only a few days since this new gas light was first publicly exhibited in New York, where the leading Journals and men of science have pronounced high commendations in its favour. It is stated to be admirably adapted to the illumination of single buildings, on account of its cheapness and the simplicity of the mode of manufacture. One of the New York editors states "that it requires no more skill than to boil a teakettle." The Doctor has proposed that in winter the gas shall be made in the furnace used to supply hot air where hot air is employed. In other cases the heat necessary to produce the gas may be distributed through houses by the stove pipes in common use.—The gas itself may be made in the kitchen. Light and heat are produced by the same process of manufacture. If these are not the true applications of science we are mistaken. Dr. Gesner has already ordered a retort and gasometer to be made in this city. The public may therefore expect to be further *enlightened* on the subject soon. At this we rejoice, for we believe that the time is an hand when we shall have cheaper gas and more light. Indeed the street lights seem to burn with greater brilliancy already.

*From the Halifax Sun of March the 18th 1850.*

Dr. Gesner's discovery, if practically applied in Halifax, will be very likely to throw the present Gas Manufacturers far in the shade. The

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present rates for Gas, are ruinous to consumers—especially to those who use many burners. The man who will give us a cheaper light, we shall hail as a public benefactor. The light has been tested by private exhibition—and approved of. Its cheapness is manifest beyond dispute, by the cost of production. Is there public spirit enough in the community to give it a public trial? It is folly to talk of a thing as useful and cheap, if we cannot avail ourselves of it. If, however, it be within our reach, let us grasp it.

*From the Acadian Recorder (Halifax) of Feb'y 16th, 1850.*

**GESNER'S PATENT KEROSENE GAS.**—In our last we made an abstract from the New York Journal of Commerce, in reference to Dr. Gesner's discovery of a new illuminating gas, of which the leading Journals of the Empire City, speak in terms of the highest commendation. As our space would not permit us to complete the article in question, we now give in another column, the substance of a communication made by Dr. Gesner, to the Academy of Natural Sciences, of Philadelphia, of which he is an honorary member and which very clearly indicates the value of the discovery of our countryman, who is now about to be amply rewarded for many years of hard toil in the field of science.

Assuming to be correct, the opinion which has been expressed by gentlemen of distinction in the ranks of science in the United States, Doctor Gesner's scheme of generating artificial light possesses such advantages as must bring it into general use. We are not apt to decide upon the merits of inventions before trial, but we can readily believe that better gas may be drawn, at less expense, from bitumen than coal. Some attempts to cheapen the price of light ought to be made immediately in this city. Although our Gas Company have realized handsome dividends from their speculation for some time past, they charge consumers now as high as seven years ago. Neither is this the only complaint that consumers make, for it is generally alleged that the gas does not afford so bright a light as formerly, but it burns faster, or the meter indicates a larger consumption of late than in corresponding quarters of previous years. The sole reason why an opposition company is delayed is, we believe, the hardness of the times.

*From the Halifax Sun of March 13th, 1850*

**MORE LIGHT.**—The vast superiority of the newly discovered Kerosene Gas, patented by Dr. Gesner, is unquestionable. It has been by experiments, proved to be infinitely preferable to Coal Gas, in all the material points of *cheapness, purity, and safety.* Competent Judges in the community have tested it upon those points, and have expressed their entire satisfaction. We trust that a movement well be at once made towards bringing this valuable article into common use amongst us. The City might be lighted with the gas at least twenty-five per cent cheaper to the public. Come you old fellows at the South End, pile on your coals and dawn on our darkness, or we fear it is all over with your monopoly.

*From the Halifax Guardian.*

**THE NEW LIGHT FROM BITUMEN.**—An opportunity has been afforded our citizens during the past week to examine the process of manufacture, the quality, &c., of the Kerosene Gas Light lately patented in this Province and elsewhere by Dr. Gesner. An apartment has

been fitted up for the occasion at Mrs. Loveland's building, corner of Hollis and Backville streets, which has been nightly thronged with enquiring visitors to whom the Doctor amply explained the various particulars incidental to the new product. The fullest satisfaction appears to have been given, and the highest anticipation of the beholders as regards the brilliancy and beauty of the light seems to have been realized. We understand that a Bill is now before the Legislature for the incorporation of a Kerosene Gas Company, with a view to bring the new article into use in the neighbouring town of Dartmouth as well as in this city. It can be supplied to consumers, we are assured, at a price considerably below that of the ordinary coal gas. If all that we hear on the subject be true, its introduction will be hailed as a boon by our citizens of all classes.

The following is the substance of a letter addressed to the Academy of Natural Sciences, Philadelphia.

"It is remarkable, that so rich a hydro-carbon as asphaltum, should have been so long overlooked, in reference to its capabilities for affording light. It had been tried for fuel, pavements, and for other purposes, both in Europe and the United States, but without success. For what purpose nature had formed such vast quantities of bituminous matter, which still continue to flow from the earth, was a problem not readily solved, until this discovery, which brings it into operation for illuminating purposes, to which it is admirably adapted.

"In the analysis given by the chemists of Europe, of the bitumen of Trinidad, there is a great diversity. Some have stated that it contains 20 and even 30 per cent. of silex, when in fact it seldom contains 10 per cent of silica. The specimens submitted to their investigations must have been taken from the beach forming the great pitch lagoon of the Island, where the sand of the shore is frequently mixed with the bitumen.

*Comparative Analysis of Coal and Bitumen.*

	Volatle Matter.	Coke, or Carbon.
Bitumen of Trinidad.....	65,5	36,57
Barbados .....	61,60	36,90
Cuba .....	63,00	34,97
Yucatan .....	62,60	35,20
New Brunswick .....	64,40	36,10
Nova Scotia .....	63,00	39,00
Coal, best Cannel.....	44,00	52,60
Liverpool. ....	40,48	54,90

"In consequence of the sulphur contained in coal, the bulk of its gases is increased,—sulphuretted hydrogen and sulphurous acid are produced. These compounds of sulphur are injurious to the illuminating powers of the gas, and increase its offensiveness. Coal also contains nitrogen, which goes to the production of ammoniacal liquor in the gas works. Now the bitumen seldom contains sulphur or nitrogen, and therefore its gas is free from sulphuretted hydrogen, sulphurous acid, cyanogen, sulpho-cyanogen and ammonia.

"It will be readily perceived by the above analysis, that as bitumen contains a much greater quantity of volatile matter than the best coal and is free from those substances which increase the quantity, but

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deteriorate the quality of coal gas, it is beyond comparison better adapted to the manufacture of illuminating gas; and this fact, so manifest in the analysis of the two substances, is fully proved in practice.

"When bitumen is melted, either in a closed retort or in the open air, it readily separates itself from its earthy impurities, and being cooled, it acquires a bright glistening lustre. The material thus prepared partakes of the characters of oil and wax, from which circumstance I have called it *kerosene*. This preparation, however, is not necessary previous to its being made into gas, for the crude material sends off its gas with great facility.

"Again, the compounds of sulphur produced in coal gas manufactories, not only greatly diminish its illuminating properties, but they corrode the metals, from the instant they enter the retorts until they are consumed in the remotest burners. The offensiveness of these gases is well known in New York, where they are constantly destroying the pipes; and, entering the surrounding earth, they saturate it with noxious and unwholesome matter.

"The ordinary time for the escape of the gas from a retort filled with coal, is 8 hours. During that period the retort must be kept at a bright red heat, and labour and fuel are in constant requisition. The gas from the same quantity of bitumen would be fully discharged in two hours, whereby a saving of three quarters would be effected in fuel and labour, by its use instead of coal. As the bitumen also yields double the quantity of gas, there is a saving of one-half in the labour of handling the material. Such items are of great consequence in large manufactories.

"From the great quantity of gas afforded by the bitumen, and the simplicity of its manufacture by my patent retort, it may be readily and cheaply made in public and private buildings, by ordinary domestic.

1 Pint of good oil will yield of gas,	12 cubic feet.
*1 lb. of Rosin (statistics of coal R. C. Taylor)...	7 "
1 lb. of Cannel coal (Dr. Ure).....	4 "
1 lb. Coal (Liverpool) bituminous.....	2,70 "
1 lb. Bitumen (by patent retort).....	5,25 to 7 "

"The price of oil will always exclude it from being employed in the manufacture of gas. The oil gas consumed in the city of Washington, is sold at \$6 per 1000 cubic feet.

"Rosin yields a large quantity of gas; but it is a vegetable production, yielding its supply only at certain periods. It has maintained no competition with coal; and probably the whole crop of a country in a year, would not light the city of New York for the same period. Its cost will always prevent its general use for making gas. The material to supply light must be cheap and inexhaustible. These requirements are only met by bitumen and coal.

"The chief part of all the gas consumed in Great Britain and the United States, is obtained from common bituminous coal, the average product of six varieties of which is 2.70 cubic feet from the pound, with a specific gravity of 0.529. The illuminating power of these gases is proportional to their specific gravity.

"Bitumen of the poorest quality gives five cubic feet to the pound, with a specific gravity of 0.720. Therefore the illuminating power

\* Rosin oil yields about seven cubic feet to the pound.



of the gas from a pound of bitumen, is to that obtained from a pound of coal (Liverpool) as 6.25 to 2.70.

"According to the lowest estimate, the inhabitants of the city of New York would save \$74,000 a year, in the quantity of gas they now consume by using bitumen instead of coal for gas, in the cost of material alone. This saving would be independent of the cost required to manufacture coal gas, as compared with that derived from kerosene, or bitumen, and the light would be far superior to that now supplied.

"The cost of the material (coal) that now supplies gas for New York, must be estimated at \$1 for every 1000 cubic feet of gas. The bitumen may be abundantly supplied at a lower price. At a moderate calculation, by substituting bitumen for coal, the gas may be supplied to the consumer at less than one half of its present cost and the manufacturer still make a profit. By using bitumen and the patent retort, the actual cost of manufacture of 100 cubic feet of gas need not exceed five cents.

"It has been long since ascertained that that is the most valuable for gas, all other things being equal, which yields its gas in the shortest space of time. For this, bitumen or asphaltum stands preeminent.

"The inquiry at once presents itself, what are the resources of bitumen or asphaltum? This inquiry will be perfectly satisfied by referring to an able work written by R. C. Taylor, Esq.\* The lake of bitumen of Trinidad is altogether inexhaustible; or, as stated by that author, "might furnish abundant supplies for the whole world." Besides the abundance of this mineral along the whole coast of South America, Mexico and Texas, it abounds in the Island of Cuba, where a single stratum, six miles from Havana, is no less than 144 feet in perpendicular thickness.

"Treating of the bitumen of Barbadoes, Mr. Taylor says: "It could be employed in the production of gas, of which it would furnish a large quantity of a very rich quality even exceeding that of Coal." "The best for that purpose hitherto known." But no discovery had been made by which this material could be applied to the general purposes of illumination, until the present. The above author states, page 251, that "We know not if any practicable employment of a mineral substance here so astonishingly abundant, has yet been engaged, or undertaken. It was surely not placed there in vain." The discovery and improvement now introduced, call into operation this hitherto worthless substance.

"In making this communication, I have studiously avoided many analytical details which fall within the range of chemistry—my own profession,—knowing that everything in which the interest of the public is concerned must undergo the ordeal of thorough investigation. I have chosen to court that investigation, having the fullest confidence in its results, and that the time has arrived when the cities and villages of the New World are to be lighted by the use of material never heretofore employed for illuminating purposes."

Since the foregoing communication was made, the Patentee has rendered his gas apparatus more simple and

\* Statistics of coal, by R. C. Taylor: J. W. Moore, 193 Chestnut-street, Philadelphia 1848.

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perfect. The gas now produced is compared below with the medium quality of coal gas, as reported in a paper laid before a committee of the House of Commons, shewing the relative values of gasses.

Single jet burner.	Material employ'd	Specific gravity of gas.	Distance of Candle from shadow. Inches.	Height of Gas flame Inches.	Equal to tallow candles 6 to the lb. and 9 inches long	Gas consumed per hour.
"	Coal	.410	75	4	2.36	1 Cub. foot.
"	Bitumen	.729	52	2½	5.00	1.37 Cub. feet.
"	Bitumen	.720	40	3	15.00	1.50 Cub. feet

Medium of several trials.

The illuminating power of the Kerosene gas is therefore nearly treble that of coal gas; then allow that the bitumen yields more than double the gas of coal, and it will appear obvious that at the lowest calculation one ton of bitumen will supply more light than four tons of common gas coal. This will at once reduce the price of gas three quarters, besides the saving of the freight, time and labor in the handling and manufacture, the value of naphtha over coal tar, &c., and the diminished dimensions of the apparatus and fixtures employed.

*From the New-York Journal of Commerce of June 17th, 1850.*

**GESNER' PATENT KEROSENE GAS.**—We publish below the analysis of the material of which Dr. Gesner makes his new illuminating Gas, and for the use of which for this purpose, and for a retort adapted to the new manufacture, he has obtained patents in this country and elsewhere.

"I have analyzed a sample of asphaltum for Dr. Gesner, from New-Brunswick, and find it yields as follows:

"Volatile matter, principally bitumen ..... 58.69  
 "Coke, nearly pure carbon ..... 41.31

100.00

"Signed,

JAMES R. CHILTON, *Chemist.*

*"New-York, June 14, 1850."*

*Chemical Analysis of Asphaltum from New-Brunswick, by C. T. Jackson, of Boston, March 16th, 1850.*

"This substance proved to be a beautiful variety of asphaltum. It is jet black, glossy, and free from smut. It breaks with a broad conchoidal

fracture, like obsidian, and presents a brilliant surface. When exposed to heat in a covered platinum crucible, an abundance of carburetted hydrogen gas is given off, which burns with a large and brilliant yellow flame, having a high illuminating power. It leaves a light and bulky coke of a brilliant black color, and very porous. Weighed portions of the asphaltum were taken for analysis, and on being heated in a covered crucible, so as to expel all the volatile matter, the coke remained was weighed. The result of the two trials gave—

1st.	2d.
58.5 of volatile matter.	58.8 of volatile matter,
41.5 of coke.	41.2 of coke.
<hr/> 100.0	<hr/> 100.0

"This substance is particularly valuable for the production of gas for illumination."

*New-York, 179 Broadway, June 14, 1850.*

I have analyzed a specimen of asphaltum left with me by Dr. Gesner, and from the province of New-Brunswick, and find it to yield the following results of volatile matter and coke, when submitted to distillation in close vessels. The results of these experiments are as follows:—

No. 1, Coke,.....43.5	No. 2, Coke.....45.5
" Volatile matter, 56.5	" Volatile matter, 54.5
No. 3, Coke,.....45.5	
" Volatile matter, 54.5	

The asphaltum breaks with a conchoidal fracture—lustre vitreous. The gas yielded by distillation is large in quantity—probably 53 per cent. of the whole—a small per centage of water being present. I should judge that the gas possesses very high illuminating powers.

(Signed,) C. TOWNSEND HARRIS.

The above asphaltum is much nearer to the different ports of the United States, than the coal mines of Pictou, and Sydney, Nova Scotia, the coal from which is sold in the New-York market at \$5 25 per ton. The asphaltum is inexhaustible.

The patented material, retort and light, may be seen at the establishment of Messrs. Walworth, Nason & Guild, 79 John-street, N. Y.; Halifax, Nova Scotia, the town of Patterson, and other places.

*From the New-York Herald of June 20th, 1850.*

**REVOLUTION IN GAS**—Last evening Dr. Abraham Gesner, of Halifax, N. S., submitted to the examination of several scientific gentlemen and merchants of this city, a discovery which he has made in the manufacture of gas, which will produce a revolution in that article, ensuring light to the public, of a superior quality, at less than half the cost of gas from coal. Dr Gesner has just returned from Washington, where he has obtained a patent for his invention. The examination was held at 79 John-street, in

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the basement of the store of Messrs. Walworth, Nason & Guild, where an apparatus was fitted up and the lights set burning. The soft and beautiful brilliancy of the light was the theme of admiration of every one present. It was produced from bitumen, or asphaltum, as follows:—A hollow cylinder, or case, filled three quarters full of bitumen, was inserted in a red hot retort, in which it was immediately liquified, the gas generated from it and conveyed through water without any purification whatever, to the gasometer, whence it was conveyed by pipes to the burners. It contains no impurity and has no smell. It is twice the density of coal gas, and requires a very small burner; from a small fish-tail the light was exceedingly beautiful. When one cylinder or case of the bitumen is consumed, it is taken out of the furnace, and another inserted in its place, and so on.

*New-York, June 20th, 1850.*

DR. GESNER.

DEAR SIR,—The result of our experiments with your patent material for making gas, is as follows:

We charged the retort with just six lbs. of bitumen, and in one hour had extracted all the gas. Upon measuring our gas-holders we found that we had obtained a fraction over thirty-five cubic feet. The amount of coke obtained was two lbs. five oz. The gas was very dense, and with a bat-wing burner consuming two and one-tenth cubic feet per hour, we obtained a light equal to 25 candles. We found also that no purification was required. No sulphur or other deleterious product could be detected. The coke obtained is of a superior quality, being nearly pure carbon. A small quantity of naphtha was deposited in the hydraulic main, but no tarry matter could be found in the pipes or burners. The apparatus is simple and easily managed. It possesses an advantage over all other apparatus, which we have seen, in regard to simplicity, neatness and absence of smell. We think it peculiarly adapted to hotels, hospitals, manufactories, and other public and private buildings.

(Signed,)

Your ob't serv'ts,

WALWORTH, NASON & GUILD,

No. 79 John-st., New-York.

DR. GESNER'S NEW GAS.—We have already noticed Dr. Gesner's discovery of a new illuminating gas, and witnessed its softness and beauty, as well as the cheap and simple process by which it is manufactured. The City of Washington has been lighted with it, and at that place the experiment has been tried upon a large scale, and in the presence of men of



profound science. The result has been that the Washington Gas Company have purchased the patent right for that city, and arrangements are in progress for the general employment of this new light. The gas is obtained altogether from bitumen, or asphaltum, which has already begun to supply an article of commerce.—*N. Y. Spirit of the Times.*

#### THE PATENT KEROSENE GAS.

The most beautiful new discovery that we are acquainted with, at present to produce light, is the Hydro-Carbon Asphalt, patented by Dr. Gesner. It contains no sulphur, and requires no purification. We have seen the gas made from it, and soft beautiful gas it is. The asphalt, as analyzed by Drs. Jackson and Chilton, contains about 50 per cent. of volatile matter and 50 of pure carbon. It is an excellent discovery, one which—without any secret chambers—has been exhibited to a number of scientific gentlemen who could appreciate its importance. With six pounds of this hydrocarbon, 35 cubic feet of gas was obtained, which was very dense—one burner being equal to 25 candles—consuming 2-10 cubic feet per hour. The apparatus to make it is so cheap and simple, that any person can buy and manage it for private families. It is a most admirable invention—*Scientific American.*

*From the Halifax British Colonist of Oct. 24th 1850.*

**KEROSENE GAS.**—Passing along Hollis street last evening, we were attracted, together with a crowd of our citizens, by the unusual brilliancy of the gas light in the Stores of Messrs. Morton and Gossip, which, upon enquiry, we learned was produced from Asphaltum, the discovery of Dr. Gesner. A gasometer and other apparatus had been arranged in some building contiguous. This light, when compared with that produced from coal, presents a striking contrast—the gas burning in the windows of the surrounding stores appearing beside the new article as the flame of a candle. It is calculated that its cost is not more than one half the price of coal gas. We understand that the steamboat company intend using it for the purpose of lighting their property on the Dartmouth side.

*From the Morning Chronicle of Oct. 24th 1850.*

**THE KEROSENE GAS** has been introduced into Morton's block of buildings; and the Earl of Dundonald inspected the premises last evening. A great number of persons were attracted by the brilliant light exhibited on Wednesday night, and it seems to be the general opinion that Dr. Gesner's Patent is a great fact.

*From the Church Times of Oct. 25th 1850.*

**KEROSENE GAS.**—The superiority of Asphaltum over coal, for the production of Gas for light, has we think, been sufficiently tested during the past week, so that not a doubt can longer exist on the subject. While the experiment was conducted at a distance, and only its results communicated, there was always reason to question the statements respecting it. If this be an age when people are astonished at nothing that occurs, it is still most especially an age of humbug, and the more marked may be the public utility that is likely to follow the success of an undertaking—the greater the magnitude of the results expected to be attained—the more room is there for doubting its completion. People are little inclined to take things for granted that may not ap-

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prove themselves to their self interest—or to accept as established truth what is not tested by the evidence of their senses. But seeing is believing, and the people of Halifax have had full opportunity of seeing that the Gas evolved from Asphaltum, by Dr. Gesner, burns with a brilliancy equal to any other. The shops of Mr. Morton, Druggist, and Mr. Gossip, Bookseller, were lit with the new gas on Wednesday evening, when (and on every evening since,) the beautiful light was the object of general admiration. It also engaged the attention of the Admiral, the Earl of Dundonald, who we dare say, experiences much satisfaction at the countenance he has afforded to the enterprise. Many may ask—What is the good of this? We will tell them. The Gas Company charge 16s. per thousand cubic feet for the article they supply—the Kerosene Gas, we are authorised to state, can be furnished at least one fourth less. This is a public benefit, and can be understood by all. It will be felt as such by every city of the civilized world which has adopted the modern improvement of lighting its streets and houses.

*From the Novascotian.*

### THE KEROSENE GAS.

All doubts as to the success of Dr. Gesner's discovery of a cheap and brilliant light from Asphaltum, are dispelled by the reiterated notices of the press in the United States. The *Scientific American*, the *New York Albion*, and a host of other respectable journals have borne testimony to the value of the discovery, and the success of the Patentee. We are glad to learn that Dr. Gesner has disposed of the Patent, for the City of Washington, for a remunerating sum—we are not authorised to state the amount—to parties in that City. He now proposes, we believe, fitting up several buildings in Halifax; and we trust the Gas Company of this city will deal with the Doctor in the most liberal spirit. If his discovery will reduce the price to the consumer—why, in the name of common sense, let us have the benefit of it. We clip the following notice from a Washington paper:

OUR CITY GAS LIGHT.—Observing the beauty of the gas light last evening, we were led to inquire into the cause, and have been informed that the light is that discovered by Dr. Gesner who has obtained a patent for it in this country. It is made from bitumen, or asphaltum, of which abundant supplies may be obtained at a cheap rate, and from the quantity and quality of the gas it yields, it will reduce the cost of illumination fifty per cent. The *Scientific American*, which is good authority in such cases, says: "it is an admirable invention." There is no humbug about it.

GESNER'S NEW GAS LIGHT.—Quite a crowd was collected in Granville Street on Wednesday evening, attracted by the unusual brilliancy of the gas light in the range of buildings extending from the corner occupied by the Messrs. Morton as a Medicine Ware-house, to the Nova Scotia Book Store of Mr. Gossip. It was understood that the Kerosene Gas of Dr. Gesner had been introduced, and thus for the first time in Halifax applied in a manner to afford an exhibition of its practical utility. If the interest already evinced in its success by those who have examined the new light and satisfied themselves of its quality may be considered a criterion by which to judge of it, the Kerosene Gas Light is destined to eclipse all the lesser lights of lamp and candle, if it do not go far to place an extinguisher on the light produced by ordinary coal gas. Our present Gas Company should see to it or the bril-

liancy of the Gesner Light may turn the eyes of their customers to the present improvement, and their thoughts to the fact that a considerable saving is promised to result from the introduction of this new article.

*From the British Colonist of October 10th, 1850.*

#### Mining in New Brunswick.

By information received from the New Brunswick papers, and from private letters, we learn that the mineral resources of the sister Province are at last beginning to be developed. During the past six months more than twenty mining leases have been granted by the Government, in the Counties of Albert and Westmoreland. Upwards of two thousand chaldrons of Bitumen, or Mineral Pitch, have already been raised at Hillsborough, and will soon be ready for shipment to the United States, to be employed in the manufacture of gas. Beds of excellent coal from two to six feet in thickness, have been pierced at Meranguin, and a party of English miners are engaged to commence the working. A Mr. Steadman has also opened a vein of coal in the neighbourhood of Shédiac, and is now exploring an asphaltum mine near the Petticodiac River. Surveys we understand are made with great energy, and there is much competition among the purchasers of mining leases. It is stated that 100,000 tons of asphaltum might be shipped next season from one mine. At present the completion of a railway, three miles in length, is required to aid its transport to the river. The *Black Lead* Mine of St. John, has been well penetrated, and it is understood that the proprietors have made a profitable investment. The iron works of Carlton county, which were unfortunately consumed by fire last season, have been rebuilt, and have commenced the manufacture of iron from the ore of Woodstock. These facts are encouraging to the inhabitants of New Brunswick, and fully confirm the predictions formerly made by Dr. Gesner in his geological reports published about ten years since. But in an equal degree they disprove the statements of Dr. Robb, and conflict with the opinions put forth by him in Professor Johnston's recent agricultural report. The mineral resources of this fine Province are evidently underrated. The opening of the above mines has aroused a new energy, and will no doubt contribute largely to the prosperity of that Province, where all the mines and minerals are under the control of the Legislature, and open to the competition of its inhabitants.

*From the Scientific American of Oct, 12th, 1850.*

**ASPHALTUM MINING IN NEW BRUNSWICK.**—We learn from a gentleman who has just completed a tour through the British Provinces, that extensive and very valuable mines of bitumen have been opened in the county of Albert, New Brunswick. The principal operations, at present are upon an out-cropping, from ten to fourteen feet in thickness, situated about four miles from the wharves of the Petticodiac River, near its mouth. The deposit has been traced along the surface several miles, and the bituminous mineral appears at numerous points along a line of thickly wooded country sixty miles in length, and perhaps ten in breadth. A number of mining leases have been granted by the government. The opening of roads and the projection of a railroad are on the advance, and a general spirit of enterprise and competition by the inhabitants and persons from the United States, is exerting itself throughout that region. On the eastern side of the river, and above Bellevue village, settled by Acadian French, the asphaltum, or mineral pitch, occurs in a soft state, and resembles wax.

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This bituminous district is described in Dr. Gesner's Geological Reports of the Province, published as long ago as 1840, and since he has successfully applied the material to the manufacture of gas, it will doubtless afford a new and valuable article of commerce. We recently published an analysis of this beautiful mineral in the *Scientific American*; we are happy in believing that its resources in New Brunswick are inexhaustible.

MESSRS. WALWORTH, NASON & GUILD, 79 John-st., New-York, have been authorized to make the Patent Report, and to dispose of Patent Rights for manufactories and other buildings.

EUGENE LE GAL, Esq., and HENRY GESNER, 86 William-st., New-York, Agents for the Patentee, will also dispose of rights, supply the material, and afford all the information required by purchasers.

The prices for Patent Rights are for any number of burners under 300, \$1 per each burner; for any number of burners, from 300 to 600, 75 Cents for each burner. For Towns and Villages there must be a specific agreement with the Agents.

ABRAHAM GESNER.

*New-York, Nov. 16, 1850.*